

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claims 1-12 (canceled).

Claim 13 (new): An antenna apparatus comprising:

a fixed-side transmission line having an electric field distribution or a magnetic field distribution that is axially symmetrical in a propagating direction;

a rotation-side transmission line, having an axially symmetrical electric field distribution or magnetic field distribution, arranged coaxially with the fixed-side transmission line so as to be rotatable about an axis of the fixed-side transmission line;

a transmission-line side choke disposed between the fixed-side transmission line and the rotation-side transmission line and arranged to cause a short-circuit between the fixed-side transmission line and the rotation-side transmission line at a high frequency; and

a primary radiator disposed in the rotation-side transmission line so as to be rotatable together with the rotation-side transmission line for radiating high-frequency signals that have passed through the rotation-side transmission line in a direction that is different from that of a rotation axis of the rotation-side transmission line.

Claim 14 (new): The apparatus according to Claim 13, wherein a plurality of the primary radiators are provided in the rotation-side transmission line, and the plurality of

the primary radiators are arranged to direct themselves in directions that are different from each other.

Claim 15 (new): The apparatus according to Claim 14, further comprising a casing arranged around the plurality of the primary radiators so as to surround the plurality of primary radiators, wherein the casing includes a radiator opening formed thereon and arranged such that any one of the plurality of rotating primary radiators can be sequentially connected to the radiator opening.

Claim 16 (new): The apparatus according to Claim 15, further comprising a radiator-side choke disposed between the plurality of primary radiators and the casing, wherein when one of the primary radiators is connected to the radiator opening, the other primary radiators and the casing are shorted therebetween by the radiator-side choke at high frequency.

Claim 17 (new): The apparatus according to Claim 13, further comprising a secondary radiator arranged on the line of the radiating direction of the primary radiator, the secondary radiator changing an outgoing radiation direction in accordance with an incident position of high-frequency signals.

Claim 18 (new): The apparatus according to Claim 17, wherein each of the fixed-side transmission line and the rotation-side transmission line includes a circular waveguide having a propagation mode in a TM01 mode as the magnetic field distribution that is axially symmetrical about the propagating direction.

Claim 19 (new): A transmitter/receiver including the antenna apparatus according to Claim 17.

Claim 20 (new): A transmitter/receiver including the antenna apparatus according to Claim 18.

Claim 21 (new): The apparatus according to Claim 13, wherein each of the fixed-side transmission line and the rotation-side transmission line includes a circular waveguide having a propagation mode in a TM01 mode as the magnetic field distribution that is axially symmetrical about the propagating direction.

Claim 22 (new): A transmitter/receiver including the antenna apparatus according to Claim 13.

Claim 23 (new): An antenna apparatus comprising:
a fixed-side transmission line having an electric field distribution or a magnetic field distribution that is axially symmetrical in a propagating direction;
a rotation-side transmission line, having an axially symmetrical electric field distribution or magnetic field distribution, arranged coaxially with the fixed-side transmission line so as to be rotatable about an axis of the fixed-side transmission line;
a transmission-line side choke disposed between the fixed-side transmission line and the rotation-side transmission line and arranged to cause a short-circuit between

the fixed-side transmission line and the rotation-side transmission line at a high frequency; and

a primary radiator disposed in the rotation-side transmission line so as to be rotatable together with the rotation-side transmission line for radiating high-frequency signals that have passed through the rotation-side transmission line in parallel with a rotation axis of the rotation-side transmission line in a manner that is not coaxial with the rotation axis.

Claim 24 (new): The apparatus according to Claim 23, further comprising a secondary radiator arranged on the line of the radiating direction of the primary radiator, the secondary radiator changing an outgoing radiation direction in accordance with an incident position of high-frequency signals.

Claim 25 (new): The apparatus according to Claim 23, wherein each of the fixed-side transmission line and the rotation-side transmission line includes a circular waveguide having a propagation mode in a TM01 mode as the magnetic field distribution axially symmetrical about the propagating direction.

Claim 26 (new): The apparatus according to Claim 24, wherein each of the fixed-side transmission line and the rotation-side transmission line includes a circular waveguide having a propagation mode in a TM01 mode as the magnetic field distribution axially symmetrical about the propagating direction.

International Application No.: PCT/JP03/10282

U.S. Patent Application No.: Unknown

March 2, 2005

Page 9 of 10

Claim 27 (new): A transmitter/receiver including the antenna apparatus according to Claim 23.

Claim 28 (new): A transmitter/receiver including the antenna apparatus according to Claim 24.

Claim 29 (new): A transmitter/receiver including the antenna apparatus according to Claim 25.